Corona Health District Rehabilitation Project

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THE INABILITY of a person to be self-supporting or to care for himself in the daily routine of living is one of the most troublesome complications of illness, injury, or old age. Such patients tend to become progressively more limited in their ability to help themselves, until they reach the stage where they require full-time custodial care at home or in an institution. Thus, in many cases, their impairments become a problem for the community as well as for the patient and his family.

Over the past decades, assistance for handicapped persons has been focused primarily upon rehabilitation toward self-support, and little or nothing has been contributed to control the dependency of those unable to carry out the simple activities of daily living. As a consequence, pressures upon private and public resources to meet growing demands for custodial care are becoming increasingly heavy. The goal of self-care as well as self-support should therefore be an objective of organized action on behalf of the disabled.

Although rehabilitation medicine has developed a number of successful techniques to teach individual patients independence in their daily living, few comprehensive community rehabilitation programs have been established. A rational pattern of care for a population of disabled persons will require the readjustment of a health program. Since there are no firm patterns to follow, such a broad program of rehabilitation can only be accomplished by trial and error. Ongoing programs need not be jeopardized if answers are sought through planned demonstrations involving only a properly selected fraction of the community. Evaluation of the findings of these studies will eventually provide the pattern needed for a full-scale reorganization of the community's rehabilitation effort.

The first of a series of such studies was started in New York City 3 years ago, upon recommendation of the Interdepartmental Health Council, a group composed of the commissioners of health, hospitals, welfare, and mental health. The council recommended the study because so many of the patients admitted to the city's chronic care and other custodial facilities for neuromuscular-skeletal disabilities had received little or no rehabilitation care before admission. It appeared that much of the deterioration of these patients might have been prevented and the high cost of custodial care avoided if there had been provision for ambulatory care at the proper time. The council felt that the development of a more efficient pattern of care was an urgent necessity, both for the benefit of the patients and to reduce costs for public and voluntary institutions.

An area in the Borough of Queens, the Corona Health District with a population of 200,000, was selected as the site of the first study. The characteristics of this area are representative of the city as a whole. The health district has within its boundaries the city hospital at Elmhurst, a municipal hospital with a large inpatient and outpatient rehabilitation service. Working relationships were established with this hospital and with two voluntary hospitals, St. Johns Long Island City Hospital and the Flushing Hospital and Dispensary. The Corona District Health Cen-

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ter is the administrative headquarters of the study, with the health officer as its medical director and the director of the hospital's rehabilitation department as its technical consultant.

The reason for the demonstration and proposed procedures were discussed with the local medical society. Problems of relationships with the community's physicians were readily resolved, and the society's president appointed an advisory committee as a liaison between the study group and the medical society as a whole. At the end of 2 years, the advisory committee became one of the society's standing committees, the Committee on Long Term Illness. The study was also presented to the professional community through the Queensborough Council of Social Agencies.

A protocol for the Corona Rehabilitation Project was then submitted to the Office of Vocational Rehabilitation. A project grant (OVR 938), awarded in January 1959 and renewed twice, enabled us to carry out this project.

The stated purposes of the project were:

- To determine the number of persons chronically ill with musculoskeletal or neuromuscular disabilities in a community of approximately 200,000 which is part of a large urban center.
- To assess the unmet need for rehabilitation in this group.
- To find out why the patient had not received rehabilitation services and to estimate the relative importance of each of the reasons given.
- To devise programs which would overcome the reasons for failure to receive rehabilitation care, whether these reasons related to the patient's inability to pay, insufficient treatment resources, or lack of public or professional knowledge of the role of rehabilitation.
- To demonstrate to the physicians of the community the feasibility and value of rehabilitation services in the home for their patients.

The nature of the demonstration program undertaken was influenced by the knowledge that few patients receive rehabilitation care in their homes, either because of inability to pay for such services or because physicians are not accustomed to think of this type of care for the homebound.

The staff for the project included a panel of four physiatrists to evaluate the rehabilitation needs of patients and to make recommendations for the treatment of each patient, a public health nurse-physical therapist, two additional physical therapists, two social workers, a psychologist on call, a speech therapist, the necessary clerical help, and, for a while, a part-time research associate. One of the social workers and the speech therapist divided their time between hospitalized patients and those at home. Vocational counseling services were made available through the hospital and the New York City office of the State's division of vocational rehabilitation. An occupational therapist is still being sought for this project.

Personnel, supply, and equipment costs were divided among the department of health, the department of hospitals, and the project grant. Bedside nursing and other appropriate services were purchased from the Visiting Nurse Service of New York, which has a district nursing office in the Corona Health Center.

Since the basic intent of this project is to develop a model rehabilitation service which it is hoped can eventually be extended throughout the city, care has been taken to make the rehabilitation work an integral part of the health center's ongoing program. The nutrition, health education, and particularly the public health nursing services have been an essential part of the project's operations since its beginning.

Casefinding

The usual estimates of neuromuscular-skeletal disability suggest a prevalence of 1 to 2 percent in the general population. This low figure presents a casefinding problem in all but the smallest communities, where periodic canvassing of the entire population becomes a realistic possibility. Efficient casefinding must be the cornerstone of any adequate community rehabilitation program. The project has explored a number of different methods of locating disabled persons living at home and in need of rehabilitation care. Two methods tried and found wanting are described below:

1. During June and July of 1959, 220 terminated patients of the bureau for handicapped children, New York City Department of Health, were mailed a questionnaire. These patients were all 21 years of

age or over who were selected from a group of 352 registered with the bureau because (*a*) they had a neuromuscular-skeletal condition, (*b*) followup services for them were terminated between 1938 and 1954, and (*c*) their last recorded address was in the service area of the Corona Rehabilitation Project.

Of these 220 persons, 102 (46 percent) could not be found. Eighty-three (70 percent) of the remaining 118 persons, presumably still in the area, did not reply. Of the 35 patients reached, 3 were found to have died of unrelated causes, 20 stated they had no physical impairment, and 12 reported varying degrees of residual handicap which did not prevent working or caring for home and family. Hence, the followup of the old caseloads of the handicapped children's program could hardly be called a useful casefinding procedure for the discovery of adults in need of rehabilitation care.

2. With the close cooperation of the county medical society, a group of 640 general practitioners and internists whose practices included the Corona area were sent a letter and questionnaire. The letter and questionnaire were designed to notify the physicians of the existence and objectives of the project, to ascertain what each physician felt to be the needs in a program of home rehabilitation, and to inquire as to the number of cases of cerebral vascular accident the physician was currently attending.

Fifty-three percent of the physicians returned answered questionnaires. Of these, 20 percent stated they were currently caring for patients who had suffered cerebral vascular accidents. The total number of patients reported was 147. However, followup interviews with the physicians brought the number down to 42, and 28, or two-thirds, of these had no residual impairment, thus yielding only 14 patients suffering from varying degrees of disability. Again, this was not an effective casefinding method.

Other schemes were tried, the efficiency of which has not yet been evaluated. The health center's public health nurses continually screened their caseloads to locate disabled adults and these persons were reported to the project office. Arrangements were made with the local municipal hospital and with two voluntary hospitals to notify the project of the discharge of patients with diagnoses commonly associated with neuromuscular-skeletal impairment. The New York City Department of Welfare agreed to report to the project office all newly accepted public assistance clients with disabilities. Two special disease-oriented voluntary health agencies also notified the project, although somewhat irregularly, of new patients with disabilities coming to their attention.

Without awaiting the detailed analyses of these techniques for locating cases, it is apparent that much more attention must be given to the development of a workable, productive, and inexpensive method of locating persons who have neuromuscular-skeletal impairment and are suitable for rehabilitation.

Case Followup

Whatever the source of the case, followup was undertaken to obtain a history of the patient, including his experience with rehabilitation care. This was done to enable the consultant physiatrist to decide whether the patient had an unmet need for rehabilitation care. Based upon his record evaluation of the patient's situation, the medical consultant recommended the next step to be taken in case processing. One of four recommendations was made: (*a*) that no further action was indicated; (*b*) that the patient be kept under periodic observation by the public health nurses to detect early evidence of deterioration; (*c*) that the patient attend the local rehabilitation clinic; or (*d*) that the patient needed rehabilitation in his home. Patients in the last group were then examined by one of the project's physiatrists (at home, if necessary) and a prescription for treatment was written, including appliances where indicated. These were the patients who were treated by the project's rehabilitation team.

The project did not proceed beyond the initial record review without obtaining approval of the patient's physician, if he had one, for each successive step. Moreover, treatment in the home was stopped if for any reason the private physician did not wish it to continue. This policy seems to have been effective in retaining the good will of the medical community. While there was no great number of spontaneous referrals from practicing physicians, there were very few outright rejections of offers of service to private patients brought to the attention of the project through other channels. It is therefore fair to say that the service demonstration proved to be acceptable to the community's physicians.

Patient acceptance of home rehabilitation care is more difficult to assess. It appears to be influenced, among several factors, largely by

age and length of disability. Patient acceptance of the program and of the usefulness of the therapy is now being assessed and will be a major consideration in the evaluation of the project.

It is hoped that the project's experience will shed some light on the reasons for the failure of the disabled to receive rehabilitation services, as well as the extent to which they are capable and willing to pay for a service such as that offered by the project. Exploration of past rehabilitation experience was part of the workup of all cases. Ability and willingness to pay for home treatment and for appliances could, of course, be tested only in the group for whom such recommendations were made by the project's physiatrists. These patients were told that the project had a sliding scale of fees, which could be waived altogether if the situation warranted. Each was requested to provide certain standard types of proof of income for calculation of the fee. The criteria for determination of the charges were those developed and used by the bureau for handicapped children of the New York City Department of Health. Since these criteria are fairly liberal, the majority of the patients screened were found to be eligible for free care. Service was not withheld because of refusal to submit proofs of income nor for failure to pay the required fee. A significant number of patients refused to participate in the financial screening and some rejected any further contact with the project.

Determination of Prevalence of Impairment

Determination of the prevalence of neuromuscular impairment was undertaken by means of a household survey which ran from early February through the latter part of May 1960, a little over 3 months (*1*). An area probability sample was designed to cover 7.5 percent of the Corona Health District population. Based on an estimate of 2.3 persons per household, 6,500 households were included in the sample.

The questions were designed to find persons with neuromuscular-skeletal impairment, either functional or structural, affecting their ability to care for themselves, to get around in the community, or to work at their regular occupations.

A team of health educators spoke before civic, religious, and fraternal organizations in the area. This educational aspect of the campaign proved most successful and community interest in the total Corona project was very high. During the first 2 months of operation of the health education team, self-referrals and community lay referrals jumped from 0 to about 20 percent of the total referrals from all sources. Most referrals continued to come from medical and hospital personnel.

At the start, an attempt was made to carry out the survey by the use of volunteers, but the survey requirement of a fairly rigid interviewing schedule, including night calls, and the necessity for the volunteer to commit himself to a minimum time contribution, eliminated many potential volunteers. Orienting individual volunteers proved time consuming and unsuccessful. As a result, by the middle of March, after about 20 percent of the households had been reached by this method, recruitment of volunteers was stopped.

In early April it was decided to have the major portion of the survey carried out by health department personnel. Twenty persons were assigned as interviewers, some of them college students hired for this work and some regular health department personnel transferred from other duties. These interviewers worked weekdays from 6 to 9 p.m. and on Saturdays and Sundays during the daytime hours. At each household the interviewer made three attempts to complete the questionnaire through an interview with a responsible adult. Return visits were made to all households where the interviewer met with an uncooperative respondent as well as to those where no one was at home. If on the third visit the questionnaire could not be completed, it was left, together with a letter, a return envelope, and a request that it be returned by mail. A complete list of names and addresses of such households was kept.

Several weeks after the date requested for return of the questionnaire, a list of all nonresponding households was compiled and, using a reverse order telephone book, the telephone numbers, if any, were recorded. Two attempts were made to reach each of these households by telephone.

The households not reached by any of these methods were regarded as a "hard core." A

10 percent random sample of the hard core of each tract was selected and an intensive effort was made to reach these households by visit, mail, and telephone, to be sure that this group did not differ materially from all others in the sample. Approximately 70 percent of the hard core group were eventually reached and their similarity to the total sample was confirmed.

In all, 5,994 households, more than 90 percent of the original sample, were reached, covering almost 17,344 persons. There were 844 reports of presumptive neuromuscular-skeletal disorders, a tentative prevalence rate of 4.9 per 100 persons. The health center's public health nursing staff followed up these presumptive cases, with these results: 60.3 percent were confirmed; 15.3 percent proved clearly to have no neuromuscular-skeletal problem, and 24.4 percent either could not be found or refused to respond. Additional visits and examinations of these patients by physiatrists and nurses are now seeking to confirm the diagnoses of the respondents and their suitability for rehabilitation care.

More than 50 percent of the patients found on nursing visit to have some neuromuscular disability reported an arthritic or similar type of involvement. The local chapter of the Arthritis and Rheumatism Foundation became interested in carrying out a followup study of its own of these alleged arthritics, in order to rule out this condition or to classify its type, if the condition was diagnosed as arthritis by means of a standardized workup by a rheumatologist. Administrative difficulties in synchronizing followup of the same group of individuals by two different teams has slowed down evaluation of the unmet rehabilitation needs among the households visited. On the other hand, intensive pursuit of the original "no contact" group by the foundation's team is expected to help increase the number of patients followed up by the project.

Enough followup of the originally "confirmed" group has been done to indicate that the final prevalence figure of individuals with significantly limiting neuromuscular-skeletal impairment will be a good deal lower than the 4.9 percent arrived at by including those who report any major or minor involvement to the interviewer.

At the end of its third year, the project was taken over in toto by the New York City Department of Health, in cooperation with the other New York agencies, and is now an ongoing activity of the Corona District Health Center. This transition was a matter of form for the health center staff since they have all been thoroughly committed to the service since it first started.

A terminal 6-month grant for tabulation and analysis of the project's experience was awarded in January of this year by the Office of Vocational Rehabilitation, U.S. Department of Health, Education, and Welfare. Plans are being made to start the second phase of the study toward the middle of the year. Emphasis will next be given to overcoming the barriers to continuity of patient care.

Discussion

The Corona project illustrates several principles involved in developing demonstration programs during this era of rapid change in public health.

It is an interdepartmental program. Since effective efforts against chronic disease and disability are certain to involve many agencies, it is usually best for this involvement to occur at the earliest possible stage of the program, so that the commitment of resources by each agency will insure full intercommunication and responsibility in planning and operations.

The program seeks to build upon existing programs and resources in the community instead of attempting a completely fresh start. Because it is important that rehabilitation be an integral part of routine medical care, much effort will go into the attempt to assist private physicians to practice rehabilitation medicine. Costs are too great and the problem too vast to be solely a matter for health department effort. The project, therefore, emphasizes the use of all available resources and gives assistance to each in order to improve its effectiveness with rehabilitation procedures.

While building upon existing resources, every effort should be made to gain the cooperation of agencies capable of adding needed services. For example, J.O.B. (Just One Break), an agency which attempts to obtain work for the

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physically handicapped, has cooperated with the project by establishing a branch office in the city hospital at Elmhurst, which serves the Corona area. From the opening of this office on February 8, 1960, through January 1962, 323 job applicants have been interviewed and 191 have been placed, according to a personal communication from Fred Board, director of J.O.B.

The fact that the Federal grant was for only 3 years has made it necessary to provide for a gradual assumption of the project as a regular part of the health department budget. Although this has meant an increase in total budgeted funds, at least some part did come from a redistribution of current resources. Real progress in public health administration can only be made if new programs result in some decrease in priority for certain older, more traditional efforts. The diversion of personnel to the Corona project has created pressures on the older programs which are leading to their reappraisal, eventual streamlining, and improved efficiency.

Emphasis is being placed on evaluation. The effectiveness of each step in the project is being studied and, when possible, evaluation mechanisms are being built in. In general, evaluation effort in a demonstration program must include a careful study of the reliability and validity of each parameter used, plus an appraisal of all difficulties which develop.

Public health practice and preventive medical knowledge are changing too rapidly to permit modern demonstration projects to adopt and adhere to a rigid design. Therefore, although the protocol for the project has been carefully written and budgeted, we have also planned for flexibility and are prepared to make major changes in plans, operations, personnel, or techniques. Only in this way can the demonstration remain timely and useful as a pattern for the future development of chronic disease and rehabilitation programs.

REFERENCE

(*1*) James, G.: Program planning and evaluation in a modern city health department. Am. J. Pub. Health 51: 1828–1840, December 1961.

Mineral Oil

Nearly 130 gallons of mineral oil was seized by the Food and Drug Administration because the labels on the bottles did not bear the required information, made false claims about the drug's medicinal effects, and stated that the oil was "excellent for use as a nonfattening oil in salad dressings." The seizure was made in Rochester, N.Y., in February 1962 under the Food Additives Amendment of 1958.

Mineral oil is a food additive for which no regulation or extension of the effective date of the Food Additives Amendment provides for use in salad dressings. The agency charged also that the labels on the bottles seized falsely claimed that the oil was adequate for chronic constipation, intestinal disorders, and piles and failed to warn that mineral oil should be taken only at bedtime, that it is not for prolonged use, and that it should not be given to infants or young children, pregnant women, or bedridden or aged persons unless directed by a physician. Mineral oil is a commonly known laxative, but special care must be taken in its use because it inhibits the absorption of fat-soluble vitamins, particularly vitamins A and D.